



[VIEW CERTIFIED CONFIGURATION GUIDE](#)

October 2012 | 1725-36166-001 Rev C

SpectraLink[®] 8020/8030 and 8400 Series Wireless Telephones with

Enterasys Networks[®]

Enterasys C20, C25, C4110, C5110, C5210, V2110
with AP 3605, 3610, 3620, 3630, 3640



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Introduction

Polycom's Voice Interoperability for Enterprise Wireless (VIEW) Certification Program is designed to ensure interoperability and high performance between SpectraLink 8440/8450/8452 and 8020/8030 Wireless Telephones and WLAN infrastructure products.

The products listed below have been thoroughly tested in Polycom's lab and have passed VIEW Certification. This guide describes the configuration of the Enterasys C20C25, C4110, C5110, C 5210, V2110 and the Enterasys AP 3605, 3610, 3620, 3630, 3640 with SpectraLink 8020/8030 and 8440/8450/8452 Wireless Telephones.

Certified Product Summary

Manufacturer:	Enterasys Networks: www.enterasys.com			
Certified products:	Controllers:	APs:		
	C20	3605		
	C25	3610		
	C4110	3620		
	C5110	3630		
	C5210	3640		
	V2110			
AP Radio(s):	2.4 GHz (802.11b/g/n), 5 GHz (802.11a/n)			
Security:	None, WEP, WPA-PSK, WPA2-PSK, WPA2-Enterprise (EAP-FAST and PEAPv0/MSCHAPv2) with OKC (Opportunistic Key-Caching)			
QoS:	Wi-Fi Standard for SpectraLink 8440/8450/8452 and 8020/8030			
AP and WLC software version tested:	8.11.06.0002			
Network topology:	Bridge Traffic Locally at HWC Bridge Traffic Locally at AP Routed**			
Handset* models tested:	SpectraLink 8440/8450/8452 Wireless Telephone			
Handset radio mode:	802.11b	802.11b/g	802.11bgn	802.11a & 802.11an
Meets VIEW minimum call capacity per AP:	8 calls	8 calls	8 calls	10 calls
Handset models tested:	SpectraLink 8020/8030 Wireless Telephone			
Handset radio mode:	802.11b & b/g mixed. 802.11 g only		802.11a	
Meets VIEW minimum call capacity per AP:	6 calls		8 calls	

*SpectraLink handset models and their OEM derivatives are verified compatible with the WLAN hardware and software identified in the table. Throughout the remainder of this document they will be referred to

collectively as “SpectraLink Wireless Telephones”, “phones” or “handsets”. The 8440, 8450 (with 1D bar code reader), and 8452 (with 1D and 2D bar code reader) handsets will be referred to collectively as the 8400 handsets.

** Routed network topology is only recommended with single controller deployment. If multiple controllers are present then the Mobility feature must be configured.

Known Limitations

- A-MPDU aggregation in 11n mode is not recommended on the radio supporting the handsets. A-MSDU is compatible.
- Only “Fit” mode (not standalone) is supported with the handsets. The AP 3630/3640 models need to be converted to “Fit” mode as they are in standalone mode by default. See the [Enterasys Wireless Convergence Software User Guide Version 8.11.xx](#) for details.
- The Admission Control Thresholds algorithm employed by Enterasys Wireless Controllers will prevent accepting additional calls once the total network traffic exceeds the percentage defined, regardless of class of the traffic.

Polycom References

For the SpectraLink 8020/8030 Wireless Telephones, please refer [Best Practices Guide for Deploying SpectraLink 8020/8030 Wireless Telephones](#) This white paper covers the security, coverage, capacity and QoS considerations necessary for ensuring excellent voice quality with enterprise Wi-Fi networks.

For the SpectraLink 8400 Series Wireless Telephones, please refer to [Best Practices Guide for Deploying Polycom SpectraLink 8400 Series Wireless Telephones](#) for detailed information on wireless LAN layout, network infrastructure, QoS, security and subnets.

These two white papers identify issues and solutions based on SpectraLink’s extensive experience in enterprise-class Wi-Fi telephony. It provides recommendations for ensuring that a network environment is adequately optimized for use with SpectraLink Wireless Telephones.

The [Polycom UC Software Administrators’ Guide](#) provides a comprehensive list of every parameter available on SpectraLink 8400 Series Wireless Telephones.

Product Support

For additional support, contact Enterasys Networks using one of the following methods:

- World Wide Web <http://www.enterasys.com/support>
- Phone 1-800-872-8440 (toll-free in U.S. and Canada)
or 1-978-684-1000

- For the Enterasys Networks Support toll-free number in your country:
<http://www.enterasys.com/support>
- Internet mail support@enterasys.com

For the most effective response from Enterasys Network Support, please type [Enterasys Wireless Convergence Software] in the subject line.

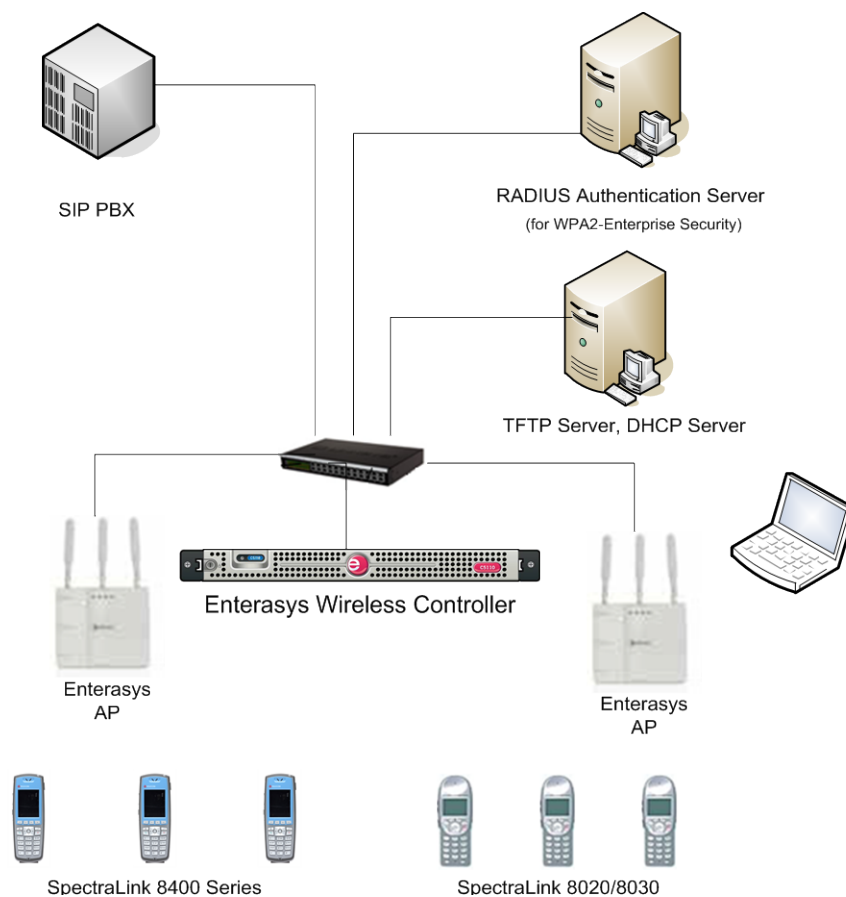
Chapter 1: Network Connection and Provisioning

Overview

SpectraLink 8020/8030 phones can be configured with Wi-Fi Standard QoS from the WLAN Settings menu using the Custom selection.

SpectraLink 8400 phones only support Wi-Fi Standard QoS.

Network Topology



Note: Example configuration shown

This configuration is not applicable to all customer environments.

Accessing the Enterasys Wireless Controller for the First Time

CLI Instructions

Enterasys Wireless Controller C20

- 1 Download the **CP210x VCP** driver that is specific to your Operating System (OS) from www.silabs.com.
- 2 Connect your laptop to the Enterasys Wireless Controller C20 via USB A/B Device Cable.
- 1 Using a terminal program of choice, configure the following settings for the appropriate COM device:
 - **Speed** – 115200
 - **Databits** – 8
 - **Parity** – None
 - **Stop Bits** – 1
 - **Flow Control** – None

Enterasys Wireless Controller, C25, C4110, C5110, C5210

- 1 Connect your laptop to the Enterasys Wireless Controller via Null Modem DB9 F-F (Female to Female) cable.
- 2 Using a terminal program of choice, configure the following settings for the appropriate COM device:
 - • **Speed** – 115200
 - • **Databits** – 8
 - • **Parity** – None
 - • **Stop Bits** – 1
 - • **Flow Control** – None

To access all Enterasys Wireless Controllers using a terminal program:

- 1 At the **login:** prompt, type **admin**.
- 2 At the **Password:** prompt, type **abc123**.
- 3 Press Enter. The **Enterasys Wireless Convergence OS** banner is displayed.



Note: Change default password.

We recommend that you change the default password.

GUI Instructions

Enterasys Wireless Controller Management port interface

The management port on the Enterasys Wireless Controller may be labeled differently depending on the Enterasys Wireless Controller.

Management port label on the Enterasys Wireless Controller

<i>Enterasys Wireless Controller</i>	<i>Management Port Label</i>
C5110	Gb 1
C4110	Gb 1
C5210	(Gigabit Ethernet) port1
C20	Admin
C25	Management
V2110	eth0 (as defined by VM installation)

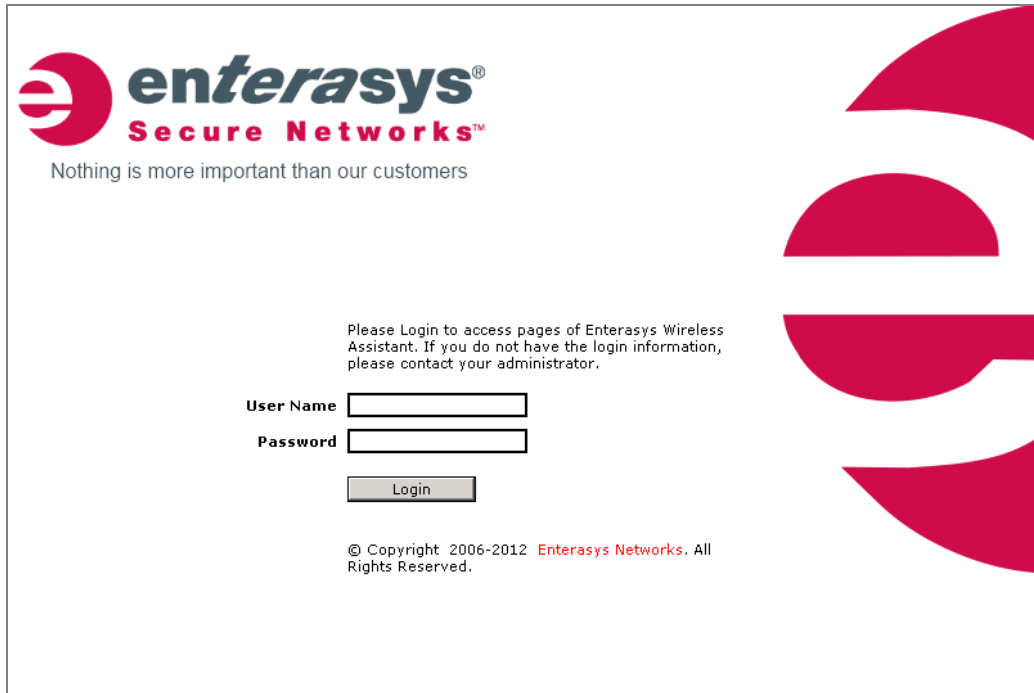
- 1 Statically assign an unused IP address in the 192.168.10.0/24 subnet for the Ethernet port of a PC. Any IP address from 192.168.10.2 to 192.168.10.254 can be used.
- 2 Connect the Enterasys Wireless Controller's management port to the PC with a cross-over RJ45 Ethernet cable, or connect the laptop and the controller into an isolated switch.



Note: Default Management Port Address

The default IP address of the Enterasys Wireless Controller's management port is 192.168.10.1:5825.

- 3 Launch your Web browser.
- 4 In the address bar, type <https://192.168.10.1:5825>. The **Enterasys Wireless Assistant** login screen is displayed.



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Please Login to access pages of Enterasys Wireless Assistant. If you do not have the login information, please contact your administrator.

User Name

Password

Login

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- 5 In the **User Name** text box, type admin.
- 6 In the **Password** text box, type abc123.
- 7 Click **Login**. The **Enterasys Wireless Assistant** is displayed.



Note: Change default password.

We recommend that you change the default password.

Reset to Factory Defaults

CLI Instructions

- 1 At the CLI prompt, type **reset mgmt**.
- 2 Press Enter. The following prompt is displayed:

WARNING: Resetting management will clear all configuration including the management port configuration. It will disconnect any clients currently using the system. Following the reset, the system will be rebooted.

Do you wish to continue?(y/n)

- 3 At the prompt, type **y**.

GUI Instructions

- 1 From the main menu, click **Wireless Controller Configuration**. The **Wireless Controller Configuration** screen is displayed.
- 2 In the **Reset Configuration** section, select the appropriate configuration reset options:
 - **Remove installed license** – The system reboots and restores all aspects of the system configuration to the initial settings and the license key is removed. However, the Management IP address is preserved. This permits administrators to remain connected through the Management interface.
 - **Remove management port configuration** – The system reboots and resets the entire system configuration to the factory shipping state. The Management IP address reverts to 192.168.10.1.
- 3 Click **Reset Configuration**.
 - Depending on the configuration reset options you select, a warning message is displayed asking you to confirm your selection.
 - If the **Remove installed license** option is selected, the warning message also displays the license activation key and optional features license keys.



Note: Copy license key information.

Copy the license key information displayed in the warning message in order to reuse these keys after the Enterasys Wireless Controller resets to its factory defaults.

- 4 Click **Yes** to continue. Your system reboots and the configuration is reset to its factory defaults.


Upgrading the Enterasys Wireless Convergence Software



Note: Upgrade software location.

For the latest Enterasys Wireless Convergence software, visit www.enterasys.com/support.

- 1 From the main menu, click **Wireless Controller**. The **Wireless Controller Configuration** screen is displayed.
- 2 From the left pane, click **Software Maintenance**. The **HWC Software** tab is displayed.
- 3 Select **Remote**. The FTP server boxes are displayed.
- 4 Enter the following information:
 - **FTP Server** – The IP address of the FTP server to retrieve the image file from.
 - **User ID** – The user ID used to log in to the FTP server.
 - **Password** – The password for the user ID.
 - **Confirm** – The password to log on to the FTP server. This field is to confirm you have typed the correct password.
 - **Directory** – The directory on the server in which the image file that is to be retrieved is stored.
 - **Filename** – The name of the image file to retrieve
- 5 Click the **Upgrade now** button.



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Wireless Controller Configuration

Home | Logs | Reports | **Wireless Controller** | Wireless APs | VNS Configuration | Mitigator
Help | LOGOUT

Availability

Flash

Host Attributes

Installation Wizard

L2 Ports

Location-based Service

Login Management

Mobility Manager

Network Time

Routing Protocols

Secure Connections

SNMP

Software Maintenance

System Maintenance

Topologies

Utilities

Web Settings

HWC Software
Backup
Restore
HWC Product Keys

Select upgrade:

☐ Local

FTP Server:

User ID:

Password:

Confirm:

Directory:

Filename:

Destination:

☒ Remote

☒ Flash

☒ Local

☐ Remote

Filename:

☒ Backup system image to:

☒ Upgrade now

☐ Schedule upgrade for:

Month:

Hour:

Day:

Min:

Current controller time is [Mon Sep 17 09:51 2012]

Disk space left for images: 1385 MB

[EWC | C25 | 02 days, 18:29] User: admin M 1 2 1 F
Software: 08.11.03.0024 | Tracing: Inactive | Admin Users: 1
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Provisioning Enterasys Wireless Controller

Defining the Topology and Setting Up for PTT Operation

For defining the network Topology below, it is good to make a note of the names of the physical ports.

Data port label on the Enterasys Wireless Controller

Enterasys Wireless Controller	Data Port Label
C5110	esa0, esa1 and esa2
C5210	(Gigabit Ethernet) port2, port3, (SFP+/GBIC) port1, port2
C4110	Port1, Port2, Port3 and Port4
C20, C25, V2110	esa0 and esa1

Before the controller can be attached to the network, the topology that it will use must be defined or chosen. The controller comes by default with an **Admin** topology and a **Bridged at AP untagged topology**. The **Admin** topology cannot be used for AP management. The available modes for network operation are:

- Physical
- Routed
- Bridge Traffic Locally at AP (the default topology **Bridged at AP untagged** uses this mode)
- Bridge Traffic Locally at HWC

- 1 From the main menu of the browser, select **VNS Configuration**.
- 2 From the left pane, select **Topologies**.

For “Physical” Topology Mode

- 1 From the **Topologies** screen, click on **New**.
- 2 Give the topology a name.
- 3 Select **Physical** from the dropdown list for **Mode**.
- 4 Enter a **VLAN ID**.
- 5 Select a **Port**.
- 6 Enter Layer 3 parameters. Enter the IP address assigned to the designated physical port for the **Interface IP**: choose a DHCP: selection, and enter DHCP parameters as necessary.
- 7 Check the **AP Registration**: and **Management Traffic**: radio boxes.
- 8 Click **Save**.

For “Routed” Topology Mode

- 1 From the **Topologies** screen, click on **New**.
- 2 Give the topology a name In the Core area, from the **Mode** drop-down menu, select **Routed**.
- 3 Check the **Layer 3** radio box if needed. In the Layer 3 area, in the **Gateway** box, type the network gateway address.
- 4 In the **Mask** box, type the appropriate values.

New Topology [?] [X]

Topology:

General	Multicast Filters	Exception Filters
<p>Core</p> <p>Name: <input type="text" value="name"/></p> <p>Mode: <input type="text" value="Routed"/></p>	<p>Layer 3: <input checked="" type="checkbox"/></p> <p>Layer 3 - IPv4</p> <p>Gateway: <input type="text" value="172.29.109.1"/></p> <p>Mask: <input type="text" value="255.255.255.0"/></p> <p>DHCP: <input type="text" value="Local Server"/> <input type="button" value="Configure"/></p> <p>MTU: <input type="text" value="1436"/></p> <p>Management Traffic: <input type="checkbox"/></p>	



Note: Define Multicast Filter for PTT Operation

In the Routed Topology, the SpectraLink Multicast Filter must be defined for proper PTT operation.

- 5 On the **Multicast Filters** tab, check the radio buttons **Multicast Support** and **Defined groups**.
- 6 Select the item **Spectralink Mcst(224.0.1.116)** from the dropdown list of **Defined groups**.
- 7 To save your changes, click **Save**.

For “Bridge Traffic Locally At AP Topology” Mode

- 1 This topology is already defined. If a new topology is defined of this type is desired, click on **New**.
- 2 Enter a name in the **Name:** field.
- 3 In the Core area, from the **Mode** drop-down menu, select **Bridge Traffic Locally At AP**.

- 4 To save your changes, click **Save**.

For “Bridge Traffic Locally At HWC Topology” Mode

- 1 In the Core area, from the **Mode** drop-down menu, select **Bridge Traffic Locally At HWC**.
- 2 In the Layer 2 area, in the **VLAN ID** box, type the VLAN number.
- 3 From the **Port** drop-down menu, select the physical interface to egress traffic from.
- 4 If Layer 3 functions are desired, check the **Layer 3**: radio box.
 - a In the Layer 3 area, in the **Interface IP** box, type the network address.
 - b In the **Mask** box, type the appropriate values.
 - c From the **DHCP Option** drop-down menu, you can select either the **Local DHCP Server** or **Use DHCP Relay**, depending upon your network topology. Click the **Configure** button. (More details for DHCP options are available in [Enterasys Wireless Convergence Software User Guide Version 8.11.xx.](#))



Note: Define Multicast Filter for PTT Operation

In the Bridge Locally at HWC Topology, the SpectraLink Multicast Filter must be defined for proper PTT operation.

- 5 On the **Multicast Filters** tab, check the radio buttons **Multicast Support** and **Defined groups**.
- 6 Select the item **SpectraLink Mcst(224.0.1.116)** from the dropdown list of **Defined groups**.
- 7 To save your changes, click **Save**.

Mask:

DHCP ? X

Next Hop Routing:

Next Hop Address:

OSPF Route Cost:

* routing table/default cost used if not specified

☐ Disable OSPF Advertisement

DHCP Servers:

- 8 To save your changes, click **Save**.



Note: AP Registration cannot use Admin topology.

The Admin Topology cannot be used for AP Registration.

Default Gateway

- 1 From the main menu, click **Wireless Controller**. The **Wireless Controller Configuration** screen is displayed.
- 2 From the left pane, click **Routing Protocols**. The **Static Routes** tab is displayed.
- 3 In the **Destination Address** box, type (0.0.0.0).
- 4 In the **Subnet Mask** box, type (0.0.0.0).
- 5 In the **Gateway** box, type the IP address of the next hop for the configured data port used for AP Registration, click **Add**.

The screenshot shows the Enterasys Wireless Controller Configuration web interface. The top navigation bar includes links for Home, Logs, Reports, Wireless Controller (selected), Wireless APs, VNS Configuration, Mitigator, Help, and LOGOUT. The left sidebar lists various configuration options, with Routing Protocols highlighted in red. The main content area is titled 'View Forwarding Table' and shows a table of static routes. Below the table are input fields for Destination Address, Subnet Mask, and Gateway, along with a checkbox for 'Override dynamic routes' and buttons for Add, Delete, Save, and Cancel.

Route #	Destination Address	Subnet Mask	Gateway	Interface	O/D
1	0.0.0.0	0.0.0.0	172.29.109.1	esa0	on

Destination Address:

Subnet Mask:

Gateway:

☒ Override dynamic routes

Buttons: Add, Delete, Save, Cancel

Footer: [EWC | C25 | 02 days, 19:17] User: admin [M] [1] [2] [1] [F] Software: 08.11.03.0024 | Tracing: Inactive | Admin Users: 1 © 2006-2012 Enterasys Networks. All Rights Reserved.

6 To save your changes, click **Save**.

7 Connect the Enterasys Wireless Controller's data port to the network infrastructure with an RJ45 cable.

Enterasys Wireless AP Discovery

Wireless APs discover the IP address of a Enterasys Wireless Controller using a sequence of mechanisms that allow for the possible services available on the enterprise network. The discovery process is successful when the Wireless AP successfully locates a Enterasys Wireless Controller to which it can register.

Ensure that the appropriate services on your enterprise network are prepared to support the discovery process. The following three steps summarize the most commonly used discovery methods (For additional methods, refer to [Enterasys Wireless Convergence Software User Guide Version 8.11.xx](#)):

- 1 Use Dynamic Host Configuration Protocol (DHCP) Option 60 to query the DHCP server for available Enterasys Wireless Controllers. The DHCP server will respond to the Wireless AP with Option 43, which will list the available Enterasys Wireless Controllers.

For the DHCP server to respond to a Wireless AP's Option 60 request, the DHCP server with the vendor class identifier (VCI) for each Wireless AP must be configured. The DHCP server must be configured with the IP addresses of the Enterasys Wireless Controllers.

2 Use a Domain Name Server (DNS) lookup for the host name Controller.domain-name.

The Wireless AP tries the DNS server if it is configured in parallel with SLP unicast and SLP multicast.

If you use this method for discovery, place an A record in the DNS server for Controller.<domain-name>. The <domain-name> is optional, but if used, ensure it is listed with the DHCP server.

3 Use a multicast SLP request to find SLP SAs

The Wireless AP sends a multicast SLP request, looking for any SLP Service Agents providing the Enterasys service.

The Wireless AP will try SLP multicast in parallel with other discovery methods.

Chapter 2: Configuration for Wi-Fi Standard QoS

Defining RADIUS Servers

- 1 From the main menu, click **VNS Configuration**.
- 2 In the left pane, click **Global**, then **Authentication**.
- 3 To define a new RADIUS server available on the network, click the **New** button. The **RADIUS Settings** pop up window displays.

The screenshot shows a window titled "RADIUS Settings" with a title bar containing a question mark and a close button. The main heading is "RADIUS Server". Below this, there are several input fields and a section for "Authentication" and "Accounting".

Server Alias:

Hostname/IP:

Shared Secret: **Unmask**

Default Protocol: PAP

Authentication

Priority:

Total Number of Tries:

RADIUS Request Timeout: (seconds)

Port:

Accounting

Priority:

Total Number of Tries:

RADIUS Request Timeout: (seconds)

Interim Accounting Interval: (minutes)

Port:

Save **Cancel**

- 4** In the **Server Alias** box, type a name that you want to assign to the RADIUS server.
- 5** In the **Hostname/IP** box, type either the RADIUS server's FQDN (fully qualified domain name) or IP address.
- 6** In the **Shared Secret** box, type the password that will be used to validate the connection between the Enterasys Wireless Controller and the RADIUS server.
- 7** To save your changes, click **Save**. The new server is displayed in the **RADIUS Servers** list.
- 8** To save your changes, click **Save**.

Defining Admission Control Thresholds

- 1 From the main menu, click **VNS Configuration**. The **Virtual Network Configuration** screen is displayed.
- 2 In the left pane, expand the **Global** pane and click **Wireless QoS**.
- 3 Select **75%** from the dropdown list for **Max Video (VI) BW for roaming streams:** and **Max Video (VI) BW for new streams:**.
- 4 The percentage to enter for **Max Voice (VO) BW for roaming streams:** and **Max Voice (VO) BW for new streams:** varies depending on the radio used to support the calls. Use the largest number shown for mixed radio deployments.
 - a Enter 50%.

The screenshot displays the Enterasys Virtual Network Configuration web interface. The top navigation bar includes links for Home, Logs, Reports, Wireless Controller, Wireless APs, VNS Configuration (highlighted), Mitigator, Help, and LOGOUT. The left sidebar shows a tree view with 'Global' expanded, containing sub-items like Authentication, DAS, Wireless QoS (highlighted), Bandwidth Control, Default Policy, and Egress Filtering Mode. Other sidebar categories include Sites, Virtual Networks, WLAN Services, Policies, Classes of Service, and Topologies.

The main content area is titled 'Admission Control Thresholds' and contains four settings, each with a dropdown menu:

- Max Voice (VO) BW for roaming streams: 50%
- Max Voice (VO) BW for new streams: 50%
- Max Video (VI) BW for roaming streams: 75%
- Max Video (VI) BW for new streams: 75%

A note below these settings states: 'Note: Settings only apply on APs serving QoS-enabled WLAN Service with Admission Control enabled'.

Below the thresholds is the 'Flexible Client Access' section, which includes a 'Fairness Policy' dropdown set to '100% Airtime'.

A 'Save' button is located at the bottom right of the configuration area.

The footer bar shows system information: '[EWC | C25 | 00 days, 02:08] User: admin' followed by status icons (M, 1, 2, 1, F) and software details: 'Software: 08.11.06.0002 | Tracing: Inactive | Admin Users: 1 © 2006-2012 Enterasys Networks. All Rights Reserved.'

Defining Classes of Service

It is only necessary to adjust the classes of service if the SIP server, PBX, or handsets are using a DSCP tag to CoS (Class of Service) mapping that is not already defined in the Enterasys controller. The defined mapping in the Enterasys controller is shown in the table below.

Default Settings for DSCP Tags to Service Class Mapping

DSCP	Service Class
0: CS0/DE	Bronze (2)
8: CS1	Background (0)
16: CS2	Best Effort (1)
24: CS3	Silver (3)
32: CS4	Gold (4)
40: CS5	Platinum (5)
48: CS6	Premium (Voice) (6)
56: CS7	Network Control (8)
10: AF11	Bronze (2)
12: AF12	Bronze (2)
14: AF13	Bronze (2)
18: AF21	Silver (3)
20: AF22	Silver (3)
22: AF23	Silver (3)
26: AF31	Gold (4)
28: AF32	Gold (4)
30: AF33	Gold (4)
34: AF41	Platinum (5)
36: AF42	Platinum (5)
38: AF43	Platinum (5)
46: EF	Premium (Voice) (6)
All others	Background (0)

- The defaults for the 80xx phones for class of service and DSCP tags depend on the Telephony Type selected from the Admin menus. They are Voice (Premium – class 6) 46 and Video (Gold (4)) – 40 or 26. This values work with the default values in the Enterasys.
- The defaults for the 8400 Series phones for class of service and DSCP tags are Voice (Premium – class 6) 46 and Video (Gold (4)) – 44. 44 does not work properly for prioritizing the control frames with the default of the Enterasys. Configurations can be used to set the 8400 Series phones to a different DSCP value. This can be achieved using the phone web browser on a phone by phone basis. Here is a screen shot of the setting, reached as Settings from the top menu->Network->QoS.

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Language: English (en-us)

Home Simple Setup Preferences Settings Diagnostics Utilities

Logged in as: Admin | Log Out

You are here: Settings > Network > QoS

QoS

Audio RTP

- * 802.1Q User Priority: 6
- * IP DSCP (overrides IP ToS):
- * IP ToS Minimize Delay: ☒ Enable ☐ Disable
- * IP ToS Maximize Throughput: ☒ Enable ☐ Disable
- * IP ToS Maximize Reliability: ☒ Enable ☐ Disable
- * IP ToS Minimize Cost: ☐ Enable ☒ Disable
- * IP ToS Precedence: 5

Call Control

- * 802.1Q User Priority: 4
- * IP DSCP (overrides IP ToS): 40
- * IP ToS Minimize Delay: ☒ Enable ☐ Disable
- * IP ToS Maximize Throughput: ☒ Enable ☐ Disable
- * IP ToS Maximize Reliability: ☒ Enable ☐ Disable
- * IP ToS Minimize Cost: ☐ Enable ☒ Disable
- * IP ToS Precedence: 5

Other Protocols

Note:

- * Fields require a phone reboot/restart.

Description

Quality of Service (QoS) settings configure network traffic to flow in guaranteed ways. For example, QoS settings determine which data packets have priority in a data flow, or which ones should arrive at a destination without having to be transmitted again.

Field Help

IP DSCP (overrides IP ToS)
(qos.ip.callControl.dscp)

You can specify the Differentiated Services Code Point (DSCP) of packets. If you set the DSCP, you will override the other parameters specified under IP ToS. Allowed values are 0 to 63, EF, AF11, AF12, AF13, AF21, AF22, AF23, AF31, AF32, AF33, AF41, AF42, or AF43.

Configured Source Values

The parameter values from different sources are listed here. If a parameter value is configured from multiple sources, the phone will use the value from the highest-priority source.

Local: Not Applicable
Web: Not Applicable
Config: Not Applicable
SIP: Not Applicable

Cancel Reset to Default View Modifications Save

- For a large facility, this setting may be changed from the provisioning .cfg files. The necessary setting is:
- `< qos.ip.callControl.dscp="40" >`
- This statement may be added to the configuration files on the provisioning server for the phone to change the DSCP tag.
- The call servers and other devices on the network must match the mapping in the controller and in the handset. DSCP tags to CoS mapping must be consistent throughout the network.
- If a call server or other device in the network is necessitating a custom mapping, the rest of this section describes how to define the custom policy.

Defining a Class of Service Policy

The CoS settings that are relevant to a VOIP handset/wireless network are Background, Best Effort, Gold, Premium Voice, and Network Control. If any of these are not defined as in the Default Settings for DSCP Tags to Service Class Mapping, they must be redefined in the Enterasys controller.

If no redefinition is necessary, create a policy by doing the following:

- 1 From the main menu, click **VNS Configuration**. The **Virtual Network Configuration** screen is displayed.
- 2 Click **New**.
- 3 Type a new for the policy, e.g. "view".

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Virtual Network Configuration

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view
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Policy:

VLAN & Class of Service Filter Rules

Core
Policy Name: view

Topology
Assigned Topology: no change Edit New

Class of Service
Default Class of Service: no change Edit
New

Save


[EWC | C25 | 00 days, 03:56] User: admin M 1 2 4 Software: 08.11.06.0002 | Tracing: Inactive | Admin Users: 1
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4 Click **Save**.

Create a Custom Class of Service

If a custom Class of Service definition is necessary, create a new Class of Service with the name, for example, wiredToWirelessCallControl.

- 1 From the main menu, click **VNS Configuration**. The **Virtual Network Configuration** screen is displayed.
- 2 In the left pane, click on **Classes of Service**.


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No CoS
 Scavenger
 Best Effort
 Bulk Data
 Critical Data
 Network Control
 Network Management
 RTP/Voice/Video
 High Priority
 wiredToWirelessCallControl
 wirelessToWiredCallControl

Topologies





Classes of Service


	Name	802.1p	ToS/DSCP	Inbound Rate Profile	Outbound Rate Profile	TXQ
<input type="checkbox"/>	No CoS	-	-	-	-	-
<input type="checkbox"/>	Scavenger	0	-	-	-	0
<input type="checkbox"/>	Best Effort	1	-	-	-	0
<input type="checkbox"/>	Bulk Data	2	-	-	-	1
<input type="checkbox"/>	Critical Data	3	-	-	-	1
<input type="checkbox"/>	Network Control	4	-	-	-	2
<input type="checkbox"/>	Network Management	5	-	-	-	2
<input type="checkbox"/>	RTP/Voice/Video	6	-	-	-	3
<input type="checkbox"/>	High Priority	7	-	-	-	3

New

Delete Selected

[EWC | C25 | 00 days, 03:42]
 User: admin



Software: 08.11.06.0002 | Tracing: Inactive | Admin Users: 1
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- 3 Click **New**.
- 4 Choose the desired Service Class from Default Settings for DSCP Tags to Service Class Mapping from the 802.1p dropdown list.
- 5 Click **Save**.

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Virtual Network Configuration

Home | Logs | Reports | Wireless Controller | Wireless APs | **VNS Configuration** | Mitigator Help | LOGOUT

Class of Service: wiredToWirelessCallControl

General

Core
Name: wiredToWirelessCallControl

Marking
☐ Use Legacy Priority Override defined in the WLAN Service
☒ **802.1p Priority:** Priority 4
☐ **ToS/DSCP:** 0x (DSCP:) **Select** **Mask: 0x** FF

Rate Limiting
☐ **Inbound Rate Limit:** **Edit** **New**
☐ **Outbound Rate Limit:** **Edit** **New**


Transmit Queue Assignment
☐ **Transmit Queue:** Transmit Queue 0

New Delete Save

[EWC | C25 | 00 days, 03:44] User: admin M 1 2 3 F Software: 08.11.06.0002 | Tracing: Inactive | Admin Users: 1
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Create a Second Class of Service

Create a second Class of Service, called from example, wirelessToWiredCallControl to map the CoS to a DSCP tag. (If desired, clicking on the **Select** button will display a popup with the ability to use a DSCP tag instead of a ToS value and will supply the corresponding ToS value as shown immediately below.)



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Network Control

Network Management

RTP/Voice/Video

High Priority

wiredToWirelessCallControl

wirelessToWiredCallControl

Topologies

Virtual Network Configuration

Class of Service: wirelessToWiredCallControl

General

Core

Name:

wirelessToWiredCallControl

Marking

☐ Use Legacy Priority Override defined in the WLAN Service

☐ 802.1p Priority:

Priority 0

☒ ToS/DSCP:

0x60 (DSCP: 0x18)

Select

Mask: 0x

FF

Rate Limiting

☐ Inbound Rate Limit:

Edit

New

☐ Outbound Rate Limit:

Edit

New

Transmit Queue Assignment

☐ Transmit Queue:

Transmit Queue 0

New

Delete

Save

[EWC | C25 | 00 days, 03:48]

User: admin

M

1

2

1

F

Software: 08.11.06.0002 | Tracing: Inactive | Admin Users: 1

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- 7 Click **Save**.

Define Policy for Custom Classes of Service

Define a policy to use the custom classes of service defined.

- 1 From the left pane with **VNS Configuration** selected, click on **Policies**.
- 2 Click **New**.
- 3 Type a new for the policy, e.g. "view".

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Virtual Network Configuration

Home | Logs | Reports | Wireless Controller | Wireless APs | **VNS Configuration** | Mitigator | Help | LOGOUT

Policy:

VLAN & Class of Service | Filter Rules

Core
Policy Name:

Topology
Assigned Topology:

Class of Service
Default Class of Service:

[EWC | C25 | 00 days, 03:56] User: admin M 1 2 1 F

Software: 08.11.06.0002 | Tracing: Inactive | Admin Users: 1
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- 4 Click the tab **Filter Rules** in the right pane.
- 5 Click **Add**.
- 6 Define the wireless to wired mapping:
 - a From the dropdown list, select **Destination (dest)** for the **In Filter**:
 - b From the dropdown list, select **none** for the **Out Filter**:
 - c Enter 0.0.0.0/0 to select all traffic for the **IP/subnet**.
 - d Choose the appropriate Class of Service Priority from the **Priority** dropdown list.

- e Choose **Allow** from the **Access Control:** dropdown list.
- f Choose the name entered above for the wireless to wired custom class of service from the **Class of Service:** dropdown list.
- g Click **OK**.

Filter Rule Definition

Direction

In Filter: Destination(dest)

Out Filter: none

Classification

IP/subnet: User Defined 0.0.0.0/0

Port: User Defined

Protocol: N/A 0

ToS/DSCP: 0x (DSCP:) **Select** **Mask:** 0xFF

Priority: Priority 4

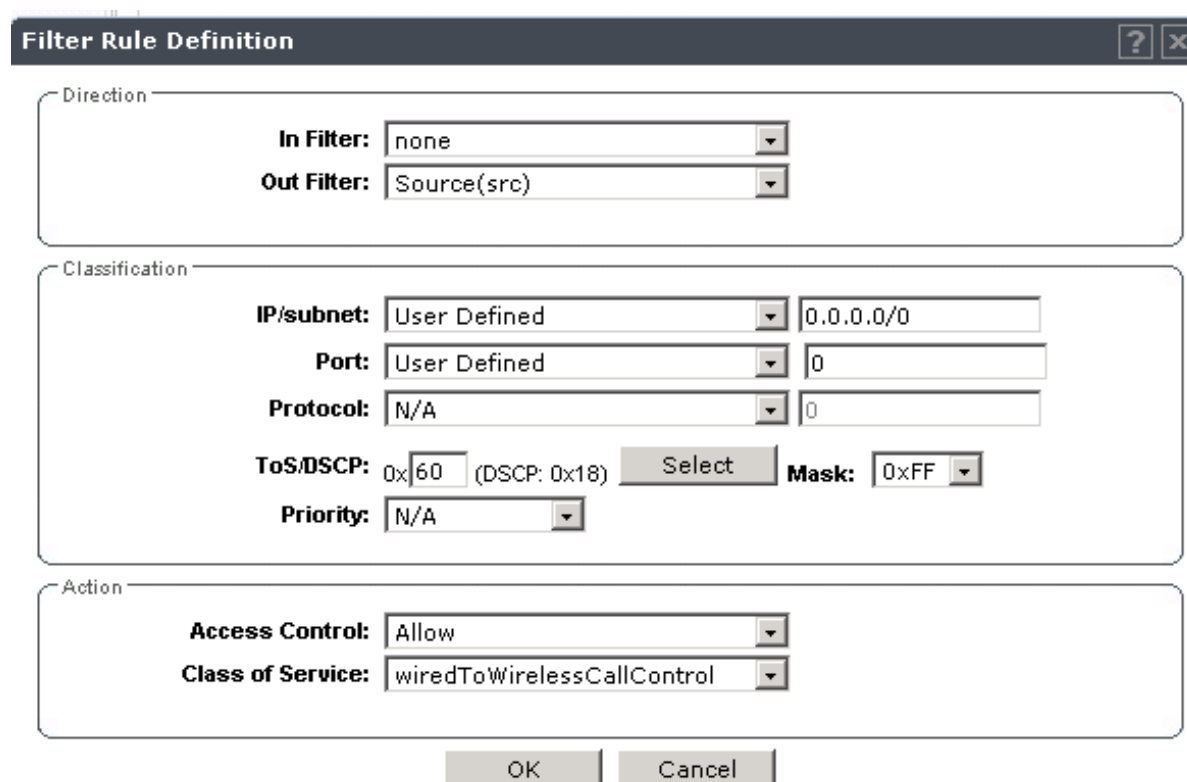
Action

Access Control: Allow

Class of Service: wirelessToWiredCallControl

OK Cancel

- 7 Defined the wired to wireless mapping
 - a From the dropdown list, select **none** for the **In Filter:**
 - b From the dropdown list, select **Source(src)** for the **Out Filter:**
 - c Enter 0.0.0.0/0 to select all traffic for the **IP/subnet**.
 - d Enter the custom **ToS/DSCP:** tag value shown above when the wired to wireless custom Class of Service was defined.
 - e Choose **Allow** from the **Access Control:** dropdown list.
 - f Choose the name entered above for the wired to wireless custom class of service from the **Class of Service:** dropdown list.
 - g Click **OK**.



Filter Rule Definition

Direction

In Filter: none

Out Filter: Source(src)

Classification

IP/subnet: User Defined 0.0.0.0/0

Port: User Defined 0

Protocol: N/A 0

ToS/DSCP: 0x60 (DSCP: 0x18) **Select** **Mask:** 0xFF

Priority: N/A

Action

Access Control: Allow

Class of Service: wiredToWirelessCallControl

OK Cancel

Setting up WLAN Services

Setting up Security

Setting up Privacy for WPA2-Enterprise

- 1 From the main menu, click **VNS Configuration**. The **Virtual Network Configuration** screen is displayed.
- 2 In the left pane, expand the **WLAN Services** pane, then click on the name of the desired WLAN Service.
- 3 Click the **Privacy** tab.
- 4 Select the **WPA** option.
- 5 Deselect the **WPA v.1** option.
- 6 Select the **WPA v.2** option.
- 7 Under **WPA v.2** section, select **AES only** from the **Encryption** drop-down menu.
- 8 From the **Key Management Options** drop-down menu, select **Opportunistic Keying & Pre-auth.**

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Virtual Network Configuration

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WLAN Services

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view_8000

view_8400

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WLAN: view_8000

WLAN Services | **Privacy** | Auth & Acct | QoS

☐ None
☐ Static Keys (WEP)
☐ Dynamic Keys (WEP)
☒ **WPA**
☐ WPA - PSK

☐ WPA v.1
 Encryption: Auto

☒ **WPA v.2**
 Encryption: Auto

Key Management Options:
 Opportunistic Keying & Pre-auth

☒ Broadcast re-key interval: 3600 seconds (30 - 86400 seconds)
☐ Group Key Power Save Retry

Note: using WEP or WPAv1 privacy will limit 11n performance to legacy AP rates

New Delete Save

[EWC | C25 | 02 days, 21:30] User: admin [M] [I] [2] [↓] [F] Software: 08.11.03.0024 | Tracing: Inactive | Admin Users: 1
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Setting up Privacy for WPA2-PSK

- 1 From the main menu, click **VNS Configuration**. The **Virtual Network Configuration** screen is displayed.
- 2 In the left pane, expand the **WLAN Services** pane, then select the desired WLAN Service.
- 3 Click the **Privacy** tab.
- 4 Select the **WPA - PSK** option.
- 5 Deselect the **WPA v.1** option.
- 6 Select the **WPA v.2** option.
- 7 Under **WPA v.2** section, select **AES only** from the **Encryption** drop-down menu.

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WLAN: view_8000

WLAN Services	Privacy	Auth & Acct	QoS
<p> <input type="radio"/> None <input type="radio"/> Static Keys (WEP) <input type="radio"/> Dynamic Keys (WEP) <input type="radio"/> WPA <input checked="" type="radio"/> WPA - PSK </p> <p> <input checked="" type="checkbox"/> WPA v.1 Encryption: <input type="text" value="Auto"/> </p> <p> <input checked="" type="checkbox"/> WPA v.2 Encryption: <input type="text" value="Auto"/> </p> <p> <input checked="" type="checkbox"/> Broadcast re-key interval: <input type="text" value="3600"/> seconds (30 - 86400 seconds) <input type="checkbox"/> Group Key Power Save Retry </p> <p> Input Method: <input checked="" type="radio"/> Input String <input type="radio"/> Input Hex Pre-shared key String: <input type="text" value="....."/> <input type="button" value="Unmask"/> (min 8 characters; max 63) </p> <p>Note: using WEP or WPAv1 privacy will limit 11n performance to legacy AP rates</p>			

New Delete Save

[EWC | C25 | 02 days, 21:30] User: admin M 1 2 4 F Software: 08.11.03.0024 | Tracing: Inactive | Admin Users: 1
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8 To save your changes, click **Save**.

9 Click the **Apply** button to save all changes.

Setting up Privacy for None

- 1 From the main menu, click **VNS Configuration**. The **Virtual Network Configuration** screen is displayed.
- 2 In the left pane, expand the **WLAN Services** pane, then select the desired WLAN Service.
- 3 Click the **Privacy** tab.
- 4 Select the **None** option.

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Virtual Network Configuration

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WLAN Services

data
view_8000
view_8400

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Topologies

WLAN: view_8000

WLAN Services | **Privacy** | Auth & Acct | QoS

☒ None
☐ Static Keys (WEP)
☐ Dynamic Keys (WEP)
☐ WPA
☐ WPA - PSK

New Delete Save

[EWC | C25 | 00 days, 02:27] User: admin M 1 2 1 F Software: 08.11.06.0002 | Tracing: Inactive | Admin Users: 1
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- 5 To save your changes, click **Save**.
- 6 Click the **Apply** button to save all changes.

Setting up Authentication for WPA2-Enterprise

- 1 From the main menu, click **VNS Configuration**. The **Virtual Network Configuration** screen is displayed.
- 2 In the left pane, expand the **WLAN Services** pane, then select the desired WLAN Service.
- 3 Click the **Auth & Acct** tab.
- 4 Under **Authentication** section, select **802.1x** from the **Mode** drop-down menu.
- 5 From the **Radius Servers** section, select the desired Radius Server from the drop-down menu and click **Use**.
- 6 Select the **Auth** checkbox.

The screenshot shows the Enterasys Virtual Network Configuration interface. The top navigation bar includes links for Home, Logs, Reports, Wireless Controller, Wireless APs, VNS Configuration (highlighted), Mitigator, Help, and LOGOUT. The left sidebar contains a tree view with categories: New..., Global, Sites, Virtual Networks (expanded), WLAN Services (selected), data, view_8000, view_8400, Policies, Classes of Service, and Topologies. The main content area is titled 'WLAN: view_8000' and has four tabs: WLAN Services, Privacy, Auth & Acct (selected), and QoS. The Auth & Acct tab contains the following sections:

- Authentication:** Mode is set to 802.1x. There is a checkbox for 'With HTTP Redirection' and a 'Configure' button.
- MAC-based Authorization:** An 'Enable' checkbox.
- RADIUS Servers:** A table with columns 'Server', 'Auth', and 'Acct'. It lists 'PolycomRadius' with 'Auth' checked and 'Acct' unchecked. To the right of the table are buttons: New, Move Up, Move Down, Configure, Test, Summary, and Remove.
- Common RADIUS Settings:** A section for 'Authentication' with checkboxes for 'Include VSA Attributes' (AP, VNS, SSID), 'Policy', 'Topology', 'Ingress Rate Control', 'Egress Rate Control', and 'Replace Called Station ID with Zone'. Below this is a checkbox for 'Collect Accounting Information of Wireless Controller'.

At the bottom of the main content area are 'New', 'Delete', and 'Save' buttons. The footer bar displays system information: [EWC | C25 | 02 days, 23:09] User: admin, software version 08.11.03.0024, and copyright information.

- 7 To save your changes, click **Save**.

Setting up Authentication for WPA-PSK

- 1 From the main menu, click **VNS Configuration**. The **Virtual Network Configuration** screen is displayed.
- 2 In the left pane, expand the **WLAN Services** pane, then select the desired WLAN Service.
- 3 Click the **Auth & Acct** tab.
- 4 Under **Authentication** section, select **Disabled** from the **Mode** drop-down menu.

The screenshot shows the Enterasys Virtual Network Configuration web interface. The top navigation bar includes links for Home, Logs, Reports, Wireless Controller, Wireless APs, VNS Configuration (highlighted), Mitigator, Help, and LOGOUT. The left sidebar contains a tree view with categories: New..., Global, Sites, Virtual Networks (expanded), WLAN Services (selected), Policies, Classes of Service, and Topologies. Under WLAN Services, a list shows 'data', 'view_8000' (highlighted), and 'view_8400'. The main content area is titled 'WLAN: view_8000' and contains four tabs: WLAN Services, Privacy, Auth & Acct (highlighted), and QoS. The 'Auth & Acct' tab is active, showing 'Authentication' with a 'Mode' dropdown set to 'Disabled', and 'MAC-based Authorization' with an 'Enable' checkbox. At the bottom of the main area are 'New', 'Delete', and 'Save' buttons. The footer status bar displays system information: [EWC | C25 | 02 days, 23:09] User: admin, software version 08.11.03.0024, and copyright information.

5 To save your changes, click **Save**.

Setting up Quality of Service (QoS) for the WLAN Services

- 1 In the left pane, expand the **WLAN Services** pane, then click on the name of the desired WLAN Service.
- 2 Click the **QoS** tab.
- 3 If the WLAN Service is for 80xx handsets, under the **Wireless QoS** section, select the following:
 - **WMM**
 - **Turbo Voice**
 - **Select U-APSD.**
 - Do not select **Flexible Client Access**.

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Virtual Network Configuration

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view_8400

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WLAN: view_8000

WLAN Services	Privacy	Auth & Acct	QoS
<p>Wireless QoS</p> <p><input type="checkbox"/> Legacy</p> <p><input checked="" type="checkbox"/> WMM</p> <p><input type="checkbox"/> 802.11e</p> <p><input checked="" type="checkbox"/> Turbo Voice</p> <p><input checked="" type="checkbox"/> U-APSD</p> <p>Admission Control</p> <p><input checked="" type="checkbox"/> Use Global Admission Control for Voice (VO)</p> <p><input checked="" type="checkbox"/> Use Global Admission Control for Video (VI)</p> <p>UL Policer Action: Do nothing</p> <p>DL Policer Action: Do nothing</p> <p><small>* Global admission controls are configured through Global Settings</small></p>			
<p><input type="checkbox"/> Flexible Client Access</p> <p><small>* Flexible Client Access may not work if Global Admission Controls for Voice and Video (Advanced QoS settings) are enabled.</small></p>			

Advanced

New Delete Save

[EWC | C25 | 02 days, 23:53] User: admin M 1 2 1 [P] Software: 08.11.03.0024 | Tracing: Inactive | Admin Users: 1
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- 4 If the WLAN Service is for 8400 Series handsets, under the Wireless QoS section, select the following:
- WMM
 - Do not select Turbo Voice.
 - Select U-APSD.
 - Do not select Flexible Client Access.

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Virtual Network Configuration

Home | Logs | Reports | Wireless Controller | Wireless APs | **VNS Configuration** | Mitigator Help | LOGOUT

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WLAN Services

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view_8000

view_8400

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WLAN: view_8400

WLAN Services	Privacy	Auth & Acct	QoS
<p>Wireless QoS</p> <p><input type="checkbox"/> Legacy</p> <p><input checked="" type="checkbox"/> WMM</p> <p><input type="checkbox"/> 802.11e</p> <p><input type="checkbox"/> Turbo Voice</p> <p><input checked="" type="checkbox"/> U-APSD</p> <p>Admission Control</p> <p><input checked="" type="checkbox"/> Use Global Admission Control for Voice (VO)</p> <p><input checked="" type="checkbox"/> Use Global Admission Control for Video (VI)</p> <p>UL Policer Action: Do nothing</p> <p>DL Policer Action: Do nothing</p> <p><small>* Global admission controls are configured through Global Settings</small></p>			
<p><input type="checkbox"/> Flexible Client Access</p> <p><small>* Flexible Client Access may not work if Global Admission Controls for Voice and Video (Advanced QoS settings) are enabled.</small></p>			
<p>Advanced</p>			

New Delete Save

[EWC | C25 | 02 days, 23:42] User: admin M I 2 1 F

Software: 08.11.03.0024 | Tracing: Inactive | Admin Users: 1
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- 5 Check the radio buttons **Use Global Admission Control for Voice (VO)** and **Use Global Admission Control for Video (VI)**.
- 6 Do **not** change any settings in the **Advanced** tab on the **QoS** tab. If the controller has been upgraded from a previous version which used DSCP mapping, delete and re-create the WLAN's without mapping. To get a non-standard DSCP tag to service class mapping, see the section on defining policies within the VNS Configuration.

Setting up an Idle Timeout

To allow the phones to be removed from the active client list in a timely manner, set an idle time for the WLAN's defined.

- 1 From the main menu, click **VNS Configuration**. The **Virtual Network Configuration** screen is displayed.
- 2 In the left pane, expand the **WLAN Services** pane, then click on the name of the desired WLAN Service.
- 3 Click the **Advanced** tab.
- 4 Set the **Idle (pre)** and **(post)** values to **1** minute.

Advanced

Timeout

Idle: (pre) minutes

(post) minutes

Session: minutes

RF

☐ Suppress SSID

☐ Enable 11h support

☐ Process client IE requests

☐ Energy Save Mode

Egress Filtering Mode

☒ Enforce explicitly defined "Out" rules

☐ Apply "in" rules to "Out" direction traffic *

* When "In" filter rules are applied to "Out" traffic, the role of the source and destination address are reversed

Client Behavior

☐ Block MU to MU traffic (not supported on Bridged at AP topologies)

802.1D

802.1D Base Port: 103

Remote Service

☐ Remotable

Apply Cancel

Setting up Radio Properties



Note: Choose Antenna for AP Model.

For the AP3620/3640, under **AP Properties**, select the installed antenna from the drop-down menu for the **Left, Middle, Right Antenna Type**.

- 1 From the main menu, click **Wireless AP Configuration**. The **Wireless AP Configuration** screen is displayed.
- 2 From the list of Wireless APs, select the Wireless 802.11n AP that is being used for the SpectraLink VNS.
- 3 On the **Wireless AP Configuration** screen, select the tab for the radio that is being used for the SpectraLink VNS. (Note that the screenshot has been scrolled down to reveal the **Advanced** button.)

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Home | Logs | Reports | Wireless Controller | **Wireless APs** | VNS Configuration | Mitigator Help | LOGOUT

All APs
AP Default Settings
AP Multi-edit
AP 802.11n Multi-edit
Client Management
Access Approval
AP Maintenance
Load Groups
AP Registration
Sensor Management
data
view8000
view

11402922235T0000
11405148235T0000

AP Properties | **WLAN Assignment** | **Radio 1** | Radio 2 | Static Configuration | 802.11n

Basic Radio Settings

- Admin Mode: On
- Radio Mode: a/n
- Channel Width: 40MHz
- RF Domain: MyDomain
- Current Channel ¹: Off
- Last Requested Channel: 36+(5180,5200 MHz)
- Request New Channel: -
- Guard Interval: Short
- Auto Tx Power Ctrl (ATPC): ☐
- Current Tx Power Level: Off
- Max Tx Power: 5 dBm
- Channel Plan: All Channels
- View
- Antenna Selection: Left/Middle/Right

¹ AP may take up to 90 seconds to report the current channel

Advanced...

Copy to Defaults | Reset to Defaults | Add Wireless AP | Save

[EWC | C25 | 03 days, 16:39] User: admin [M] [I] [?] [!] [F]

Software: 08.11.03.0024 | Tracing: Inactive | Admin Users: 1
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- 4 For **Radio Mode**, select the protocol to be used for the SpectraLink VNS.


Note: Radio Power Settings.

For setting up the **Max Tx Power**, please consult your facility's RF site survey, designed for voice traffic, to determine if you have sufficient coverage to support all data rates. SpectraLink Wireless Telephones require the following minimum dBm reading to support the corresponding **Mandatory** data rate setting in the access point.

802.11 Radio Standard	Minimum Available Signal Strength (RSSI)	Maximum "Mandatory" Data Rate
802.11b	-70 dBm	1 Mb/s
	-60 dBm	11 Mb/s
802.11g	-63 dBm	6 Mb/s
	-47 dBm	54 Mb/s
802.11a	-60 dBm	6 Mb/s
	-45 dBm	54 Mb/s


Note: RF Deployment reference

For additional details on RF deployment please see the *Deploying Enterprise-Grade Wi-Fi Telephony* white paper and the *Best Practices Guide to Network Design Considerations for SpectraLink Wireless Telephone*.

5 Click the **Advanced** button.

Advanced

Base Settings

DTIM Period

2

Beacon Period [ms]

100

RTS/CTS Threshold [Bytes]

2346

Frag. Threshold [Bytes]

2346

Max % of non-unicast traffic per Beacon period

100

Maximum Distance [m]

100

Basic Radio Settings

Dynamic Channel Selection

Off

Min Basic Rate

6 Mbps

11n Settings

Protection Mode

Auto

Protection Type

CTS only

40MHz Channel Busy Threshold

50

Aggregate MSDUs

Enabled

Aggregate MPDUs

Disabled

Aggregate MPDU Max Length

65535

Agg. MPDU Max # of Sub-frames


64

ADDBA Support

Enabled

Close

- 6 Under **Base Settings**, set the **DTIM Period** to **2**.
- 7 For radios using 11n rates, enter **Enabled** for **Aggregate MSDUs** and **Disabled** for **Aggregate MPDUs**.
- 8 Click the **WLAN Assignment** tab.
- 9 Select the radio that is being used for the SpectraLink VNS.

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Wireless APs

Home | Logs | Reports | Wireless Controller | **Wireless APs** | VNS Configuration | Mitigator Help | LOGOUT






All APs
AP Default Settings
AP Multi-edit
AP 802.1x Multi-edit
Client Management
Access Approval
AP Maintenance
Load Groups
AP Registration
Sensor Management
data
view8000
view

11402922235T0000
11405148235T0000

AP Properties | **WLAN Assignment** | Radio 1 | Radio 2 | Static Configuration | 802.1x

WLAN Name	Radio 1	Radio 2
data	<input checked="" type="checkbox"/>	<input type="checkbox"/>
view_8000	<input checked="" type="checkbox"/>	<input type="checkbox"/>
view_8400	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Copy to Defaults | Reset to Defaults | Add Wireless AP | Save

[EWC | C25 | 03 days, 16:39] User: admin      Software: 08.11.03.0024 | Tracing: Inactive | Admin Users: 1
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10 To save your changes, click **Save**.

Defining 80xx and 8400 VNS (subnets)



Note: Define 8400 Series VNS and 80xx VNS.

Polycom recommends a dedicated VNS for the 8400 Series handsets and a dedicated VNS for the 80xx handsets. Note that the handsets can still call each other if they are connected to the same call server.

- 1 From the main menu, click **VNS Configuration**. The **Virtual Network Configuration** screen is displayed.
- 2 In the left pane, expand the **New** pane and click **Add VNS (subnet)**.
- 3 Type a name that will identify the new VNS in the **VNS Name** box.

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Virtual Network Configuration

Home | Logs | Reports | Wireless Controller | Wireless APs | **VNS Configuration** | Mitigator | Help | LOGOUT

New...

Global

Sites

Virtual Networks

data
view_8000
view_8400

WLAN Services

Policies

Classes of Service

Topologies

VNS:

General

Core

VNS Name:

WLAN Service

WLAN Service:

Default Policies

Non-Authenticated:
Topology: Class of Service:

Authenticated:
Topology: Class of Service:

Status

Synchronize: ☐

Enable: ☐ Replicated when Synchronize Configuration is enabled

[EWC | C25 | 02 days, 20:57] User: admin M 1 2 1 F

Software: 08.11.03.0024 | Tracing: Inactive | Admin Users: 1
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- 4 In the WLAN Service area, select the WLAN service created in [Setting up WLAN Services](#). The WLAN Service window is displayed. Enter a name for the service and the SSID and click on **Save**.

New WLAN Service

WLAN:

WLAN Services

Core

Name: view_8400

Service Type:

- ☒ Standard
- ☐ WDS
- ☐ Mesh
- ☐ Third Party AP
- ☐ Remote

SSID: view_8400

Status

Enable: ☒

- 5 Back on the VNS screen, in the Default Policies area, select an existing **Non-Authenticated** and **Authenticated** policy (use the name of the policy created in [Defining Classes of Service](#)).
- 6 From the Topology area, select the topology created in [Defining the Topology and Setting Up for PTT Operation](#) from the **Assigned Topology** drop-down list.



Note: Allowed VNS Topologies.

The SpectraLink telephones can be deployed in **Bridge Traffic Locally at AP**, **Bridge Traffic Locally at HWC** or **Routed** topology. Which one is applicable depends on the customer environment. In **Bridge Traffic Locally at AP** topology, voice traffic is terminated on the AP. In **Bridge Traffic Locally at HWC** and **Routed** (tunneled topology), voice traffic is terminated at the Enterasys Wireless Controller. Appropriate network connectivity to the SIP GW should be provided in all three topologies.

- 7 Enable the WLAN.



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Virtual Network Configuration

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[Help](#) | [LOGOUT](#)

New...

Global

Sites

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data

view_8000

view_8400

WLAN Services

Policies

Classes of Service

Topologies

VNS: view_8000

General

Core

VNS Name: view_8000

WLAN Service

WLAN Service: view_8000

Edit

New

Default Policies

Non-Authenticated: Polycor

Edit

New

Topology: Bridged at AP untagged Class of Service: No CoS

Authenticated: <Same as non-authenticated>

Edit

New

Topology: Bridged at AP untagged Class of Service: No CoS

Status

Enable: ☒

New

Delete

Save

[EWC | C25 | 02 days, 21:21] User: admin

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